

CLAIMS

What is claimed is:

5 1. An X-DSL transceiver operable to process subscriber line communications
effectuable between at least one digital signal processor (DSP) and at least one analog
front end (AFE) and the at least one AFE coupled to at least one corresponding
subscriber line for transport of a corresponding channel of data between a subscriber
coupled to a corresponding subscriber line and the DSP; and the X-DSL transceiver
10 comprising:
 a DFT/IDFT engine with a DFT portion to convert for at least one channel
digitized tone sets on a receive path to digitized symbols and an IDFT portion to
convert for the at least one channel the digitized symbols on a transmit path to
digitized tone sets and the DFT/IDFT engine providing variable tone spacing for the at
least one channel.
15 2. The X-DSL transceiver of Claim 1, further comprising:
 a variable rate interpolator coupled to the IDFT portion of the DFT/IDFT
engine and the variable rate interpolator setting the sampling rate at an output of the
20 IDFT to match sampling rate of a digital input of the corresponding AFE.
 3. The X-DSL transceiver of Claim 1, further comprising:
 a variable rate decimator coupled to the digital output of the corresponding
AFE and the variable rate decimator setting the sampling rate at the digital output of
25 the AFE to match the sampling rate at the input of the DFT portion of the DFT/IDFT
engine..
 4. The X-DSL transceiver of Claim 1, further comprising:
 a scheduler coupled to the DFT/IDFT engine for scheduling channels to be
processed by the DFT/IDFT engine during each processing interval.